

WHAT IS CLAIMED IS:

1. A method for fulfilling a search request generated from a
5 client computer to a search server, comprising:

instantiating a program on said client computer for
requesting and presenting a result of said search request;
transmitting information specifying said search request to
said search server;

downloading binary search result data from a database
within said search server to said client computer, said search
request result comprising location information and match quality
information;

interpreting said location information and match quality
information for display of said location information on a
graphical display of said client computer, whereby said location
information is formatted for presentation on said graphical
display by said program; and

20 generating said graphical display in conformity a result of
said interpreting.

2. The method of Claim 1, wherein said instantiating
instantiates a Java applet within a browser program executing
within said client computer, and wherein said interpreting is
performed by said Java applet on said binary search result data
5 and wherein said Java applet generates a graphical display in
conformity therewith.

4. The method of Claim 3, wherein said client computer is a personal digital assistant (PDA) and wherein said dedicated application further polls said search server for graphical information for generating said graphical display, wherein said 5 interpreting is performed by said search server, said downloading downloads said graphical information along with said binary search result data, and wherein said dedicated application generates said graphical display in conformity with said downloaded graphical information and said binary search result data.

5. The method of Claim 1, wherein said generating generates a list of said location information and a control interface at each list item for manipulating said list item, and further comprising:

receiving a user input at said control interface for manipulating said list item; and
in response to said receiving, modifying a display of said list item in conformity with said user input without generating 20 another request to said search server.

6. The method of Claim 5, wherein said list is a collapsible list, wherein each list item is representable by a verbose state and a sparse state, and wherein said modifying changes a state of said list item display in response to said receiving.

5

7. The method of Claim 1, wherein said generating generates a graphical mosaic comprising graphical figures each corresponding to a location, and wherein characteristics of said graphical figures are adjusted in conformity with said interpretation of said match quality information.

the **King** of **England** and **Scotland** in **1603**.

8. The method of Claim 7, wherein said generating further generates a category selection list, and wherein said graphical mosaic is generated from a set of locations corresponding to a selected category of said category selection list.

9. The method of Claim 8, wherein said graphical mosaic comprises a radial view wherein a radial position each of said graphical figures increases with a decreasing match quality.

20

10. The method of Claim 7, wherein said graphical mosaic comprises a radial view wherein a radial position each of said graphical figures increases with a decreasing match quality.

11. The method of Claim 10, wherein a color of said graphical figures denotes locations that are located at the same site.

12. The method of Claim 10, wherein a brightness of said 5 graphical figures further denotes a quality of match of the corresponding location.

13. The method of Claim 10, wherein a size of said graphical figures denotes a popularity of the corresponding location.

14. The method of Claim 10, wherein said graphical figures comprise:

 a central circular figure corresponding to a best match from said set of locations; and

 a plurality of semi-circular arcs each corresponding to one of the remainder of said locations, each arc having a thickness and an angular length determined at said generating, said thickness and an angular length of said arc corresponding to a quality of match of said corresponding one of said location.

15. The method of Claim 10, further comprising:

receiving a user selection of one of said graphical figures made by a user moving a graphical pointer over said one of said graphical figures; and

5 in response to said receiving, generating a text box containing a description of the corresponding location near said graphical figure.

16. The method of Claim 1, wherein said generating generates a hierarchical view wherein graphical figures corresponding to a set of categories is generated on said graphical display, and wherein said interpretation is performed in conformity with a selected state of said hierarchical view, and wherein said generating generates a display of said location information in conformity with said selected state.

17. The method of Claim 16, wherein said generating further generates a display of said location information in conformity with said match quality information.

18. The method of Claim 16, wherein said generating generates a hierarchical view comprising graphical figures each corresponding to one of said set of categories, and wherein a user selects said selected state by selecting one of said 5 category graphical figures.

19. The method of Claim 18, wherein said generating generates a graphical display having graphical figures corresponding to sub-categories within said categories and wherein said hierarchical view comprises sub-category graphical figures each corresponding so one of said set of sub-categories drawn within said category graphical figures whereby said user may select a level of said selected state by selecting one of said sub-category graphical figures or one of said category graphical figures.

20. The method of Claim 18, wherein said generating further generates a graphical mosaic comprising mosaic graphical figures each corresponding to a location, wherein characteristics of said mosaic graphical figures are adjusted in conformity with 20 said interpretation of said match quality information, and wherein said mosaic graphical figures correspond to one of a set of locations determined in conformity with said selected state of said hierarchical view.

21. The method of Claim 20, wherein said graphical mosaic comprises a radial view wherein a radial position each of said mosaic graphical figures increases with a decreasing match quality.

5

22. A graphical user interface method for displaying search results downloaded from a search server, said search results including a set of location information and match quality information, said method including:

generating a list of said location information and a control interface located at each list item for manipulating said list item on a graphical display;

receiving a user input at a particular control interface for manipulating an associated list item; and

in response to said receiving, modifying a display of said particular list item in conformity with said user input without generating another request to said search server.

23. The graphical user interface method of Claim 22, wherein
20 said list is a collapsible list, wherein display of each list item is representable by a verbose state and a sparse state, and wherein said modifying changes a state of said display of said list item in response to said receiving.

24. A graphical user interface method for displaying Internet search results downloaded from a search server, said search results including a set of location information and match quality information, said method including generating a 5 graphical mosaic comprising graphical figures each corresponding to a location, and wherein characteristics of said graphical figures are generated in conformity with said interpretation of said match quality information.

4
3
2
1
0
9
8
7
6
5
4
3
2
1
0

25. The graphical user interface method of Claim 24, wherein said graphical mosaic comprises a radial view wherein a radial position of said graphical figures increases with a decreasing match quality.

26. The graphical user interface method of Claim 24, wherein a color of said graphical figures denotes locations that are located at the same site.

27. The graphical user interface method of Claim 24, wherein a 20 brightness of said graphical figures further denotes a quality of match of the corresponding location.

28. The graphical user interface method of Claim 24, wherein a size of said graphical figures denotes a popularity of the corresponding location.

5 29. The graphical user interface method of Claim 24, wherein said graphical figures comprise:

 a central circular figure corresponding to a best match from said set of locations; and

 a plurality of semi-circular arcs each corresponding to one of the remainder of said locations, each arc having a thickness and an angular length determined at said generating, said thickness and an angular length of said arc corresponding to a quality of match of said corresponding one of said locations.

30. The graphical user interface method of Claim 24, further comprising:

 receiving a user selection of one of said graphical figures made by a user moving a graphical pointer over said one of said graphical figures; and

20 in response to said receiving, generating a text box containing a description of the location corresponding to said graphical figure.

31. The graphical user interface method of Claim 24, further comprising generating a category selection list, and wherein said graphical mosaic is generated from a set of locations corresponding to a selected category of said category selection
5 list.

32. The graphical user interface method of Claim 24, further comprising generating a hierarchical view wherein graphical figures corresponding to a set of categories is generated within a graphical display, and wherein said hierarchical view is adapted for user input for selecting a state of said hierarchical view, and wherein said graphical mosaic is generated from a set of locations corresponding to a selected state of said hierarchical view.

00528587 2017-02-22

33. A graphical user interface method comprising:

generating a hierarchical view wherein graphical figures corresponding to a set of categories is generated within a first area of a graphical display, and wherein said hierarchical view is adapted for user input for selecting a state of said hierarchical view;

interpreting a set of search results in conformity with a selected state of said hierarchical view; and

generating a search result display from said interpreted search results in a second area of said graphical display.

34. The graphical user interface method of Claim 33, wherein said generating generates a hierarchical view comprising category graphical figures each corresponding to one of said set of categories, and wherein a user selects said selected state by selecting one of said category graphical figures.

35. The graphical user interface method of Claim 33, wherein
said generating generates a graphical display having graphical
elements corresponding to sub-categories within said categories
and wherein said hierarchical view comprises sub-category
5 graphical figures drawn within said category graphical figures,
each corresponding to one of said set of sub-categories whereby
said user may select a level of said selected state by selecting
one of said sub-category graphical figures or one of said
category graphical figures.

44
43
42
41
40
39
38
37
36
35
34
33
32
31
30
29
28
27
26
25
24
23
22
21
20
19
18
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1

36. A computer network comprising:

a search server for providing search database information
in response to search requests;

a client computer system coupled to said search server via
5 said network, said computer system comprising a memory for
storing program instructions and data coupled to a processor for
executing said program instructions, and wherein said program
instructions comprise:

program instructions for requesting and presenting a
result of said search request;

transmitting information specifying said search
request to said search server;

downloading binary search result data from said search
server, said search request result comprising location
information and match quality information;

interpreting said location information and match
quality information for display of said location information on
a graphical display of said client computer, whereby said
location information is formatted for presentation on said
20 graphical display by said program; and

generating said graphical display in conformity a result of
said interpreting.

37. The computer network of Claim 36, wherein said program instructions are embodied in a Java applet for execution within a browser program executing within said client computer, and wherein said interpreting is performed by said Java applet on 5 said binary search result data and wherein said Java applet generates a graphical display in conformity therewith.

38. The computer network of Claim 36, wherein said client computer is a personal digital assistant (PDA), and wherein said program instructions comprise a dedicated application executing within said PDA and wherein said interpreting is performed by said dedicated application on said binary search result data and wherein said dedicated application generates a graphical display in conformity with a result of said interpreting.

1234567890

39. The computer network of Claim 36 wherein said client computer is a personal digital assistant (PDA), further comprising server program instructions within a memory of said search server for execution by a processor within said search server, and wherein said program instructions within said client computer comprise a dedicated application executing within said PDA and wherein said interpreting is performed by said dedicated application on said binary search result data and wherein said dedicated application generates requests to said search server to provide data for generating a graphical display in conformity with a result of said interpreting and wherein said server program instructions supply graphical information in response to said requests.

40. A computer system comprising a memory for storing program instructions and data, a processor coupled to said memory for executing said program instructions, a graphical display device coupled to said processor for displaying a graphical user interface (GUI) and an input device coupled to said processor for providing user input, wherein said program instructions comprise program instructions for:

receiving search results including a set of location information and match quality information, and

generating a graphical mosaic comprising graphical figures each corresponding to a location, and wherein characteristics of said graphical figures are generated in conformity with said interpretation of said match quality information.

41. The computer system of Claim 40, wherein said program instructions generate a graphical mosaic comprising a radial view wherein a radial position of said graphical figures increases with a decreasing match quality.

20 42. The computer system of Claim 41, wherein said program instructions set a color of said graphical figures denoting locations that are located at the same site.

43. The computer system of Claim 41, wherein said program instructions set a brightness of said graphical figures further denoting a quality of match of the corresponding location.

5 44. The computer system of Claim 41, wherein said program instructions set a size of said graphical figures denoting a popularity of the corresponding location.

45. The computer system of Claim 41, wherein said program instructions generate a graphical mosaic comprising a central circular figure corresponding to a best match from said set of locations, and a plurality of semi-circular arcs each corresponding to one of the remainder of said locations, each arc having a thickness and an angular length determined at said generating, said thickness and an angular length of said arc corresponding to a quality of match of said corresponding one of said locations.

46. The computer system of Claim 40, wherein said program instructions further comprise program instructions for:

receiving a user selection of one of said graphical figures made by a user moving a graphical pointer over said one of said 5 graphical figures; and

in response to said receiving, generating a text box containing a description of the location corresponding to said graphical figure.

401938350 30123315
22

47. The computer system of Claim 40, wherein said program instructions further comprise program instructions for:

generating a list of categories; and

determining that a user has selected a category, and wherein said graphical mosaic is generated from a set of locations corresponding to said selected category.

48. A computer system comprising a memory for storing program instructions and data, a processor coupled to said memory for executing said program instructions, a graphical display device coupled to said processor for displaying a graphical user interface (GUI) and an input device coupled to said processor for providing user input, wherein said program instructions comprise program instructions for:

receiving search results including a set of location information;

generating a hierarchical view wherein graphical figures corresponding to a set of categories is generated within a first area of a graphical display, and wherein said hierarchical view is adapted for user input for selecting a state of said hierarchical view;

interpreting a set of search results in conformity with a selected state of said hierarchical view; and

generating a search result display from said interpreted search results in a second area of said graphical display.

49. The computer system of Claim 48 wherein said program
instructions for generating generate a hierarchical view
comprising category graphical figures each corresponding to one
of said set of categories, and wherein a user selects said
5 selected state by selecting one of said category graphical
figures.

50. The computer system of Claim 49, wherein said program
instructions for generating generate a graphical display having
graphical elements corresponding to sub-categories within said
categories and wherein said hierarchical view comprises sub-
category graphical figures drawn within said category graphical
figures, each corresponding to one of said set of sub-categories
whereby said user may select a level of said selected state by
selecting one of said sub-category graphical figures or one of
said category graphical figures.

51. The computer system of Claim 48, wherein said program
instructions for receiving further receive match quality
information corresponding to locations within said location
information, and wherein said program instructions for
5 generating further generate a graphical mosaic comprising
graphical figures each corresponding to a location, and wherein
characteristics of said graphical figures are generated in
conformity with said interpretation of said match quality
information, and wherein said graphical figures are generated
from a set of locations corresponding to a selected state of
said hierarchical view.

4 1 0 0 2 2 3 4 5 6 7 8 9 0 1 2 3 4 5

52. A computer program product comprising signal-bearing media encoding program instructions for execution within a general-purpose computer coupled to a search server via a network, wherein said program instructions comprise program instructions

5 for:

instantiating a program for requesting a search and presenting a result of said search request;

transmitting information specifying said search request to said search server;

downloading binary search result data from said search server, said search request result comprising location information and match quality information;

interpreting said location information and match quality information for display of said location information on a graphical display of said computer, whereby said location information is formatted for presentation on said graphical display by said program; and

generating said graphical display in conformity with a result of said interpreting.

53. The computer program product of Claim 52, wherein said program comprises a Java applet for execution within a browser program executing within said computer, and wherein said interpreting is performed by said Java applet on said binary 5 search result data and wherein said Java applet generates a graphical display in conformity therewith.

54. The computer program product of Claim 52, wherein said computer is a personal digital assistant (PDA), and wherein said program instructions comprise a dedicated application executing within said PDA and wherein said interpreting is performed by said dedicated application on said binary search result data and wherein said dedicated application generates a graphical display in conformity with a result of said interpreting.

55. A computer program product comprising signal-bearing media encoding program instructions for execution within a computer system, wherein said program instructions comprise program instructions for:

5 receiving search results including a set of location
information and match quality information, and
generating a graphical mosaic comprising graphical figures
each corresponding to a location, and wherein characteristics of
said graphical figures are generated in conformity with said
interpretation of said match quality information.

56. The computer program product of Claim 55, wherein said program instructions for generating generate a graphical mosaic comprising a radial view wherein a radial position of said graphical figures increases with a decreasing match quality.

57. The computer program product of Claim 56, wherein said program instructions set a color of said graphical figures denoting locations that are located at the same site.

20

58. The computer program product of Claim 56, wherein said program instructions set a brightness of said graphical figures further denoting a quality of match of the corresponding location.

59. The computer program product of Claim 56, wherein said program instructions set a size of said graphical figures denoting a popularity of the corresponding location.

5

60. The computer program product of Claim 56, wherein said program instructions generate a graphical mosaic comprising a central circular figure corresponding to a best match from said set of locations, and a plurality of semi-circular arcs each corresponding to one of the remainder of said locations, each arc having a thickness and an angular length determined at said generating, said thickness and an angular length of said arc corresponding to a quality of match of said corresponding one of said locations.

4 0 1 5 2 6 5 6 6 0 4 2 2 6 5 6 2

61. The computer program product of Claim 56 wherein said program instructions further comprise program instructions for:
receiving a user selection of one of said graphical figures made by a user moving a graphical pointer over said one of said
20 graphical figures; and

in response to said receiving, generating a text box containing a description of the location corresponding to said graphical figure.

62. The computer program product of Claim 56, wherein said program instructions further comprise program instructions for: generating a list of categories; and determining that a user has selected a category, and

5 wherein said graphical mosaic is generated from a set of locations corresponding to said selected category.

63. A computer program product comprising signal-bearing media encoding program instructions for execution within a general-purpose computer system, wherein said program instructions comprise program instructions for:

5 receiving search results including a set of location information;

generating a hierarchical view wherein graphical figures corresponding to a set of categories is generated within a first area of a graphical display, and wherein said hierarchical view is adapted for user input for selecting a state of said hierarchical view;

interpreting a set of search results in conformity with a selected state of said hierarchical view; and

generating a search result display from said interpreted search results in a second area of said graphical display.

64. The computer program product of Claim 63, wherein said program instructions for generating generate a hierarchical view comprising category graphical figures each corresponding to one 20 of said set of categories, and wherein a user selects said selected state by selecting one of said category graphical figures.

65. The computer program product of Claim 64, wherein said program instructions for generating generate a graphical display having graphical elements corresponding to sub-categories within said categories and wherein said hierarchical view comprises

5 sub-category graphical figures drawn within said category graphical figures, each corresponding to one of said set of sub-categories whereby said user may select a level of said selected state by selecting one of said sub-category graphical figures or

4 one of said category graphical figures.

卷之三

66. The computer system of Claim 63, wherein said program instructions for receiving further receive match quality information corresponding to locations within said location information, and wherein said program instructions for generating further generate a graphical mosaic comprising graphical figures each corresponding to a location, and wherein characteristics of said graphical figures are generated in conformity with said interpretation of said match quality information, and wherein said graphical figures are generated from a set of locations corresponding to a selected state of said hierarchical view.